

L 5073-66

ACC NR: AP5022633

was described and schematically presented. The use of stationary dosimeters for area and room monitoring by means of a remote control equipment is discussed and a formula for the determination of pulse reading errors is given. The fundamental aspects of determining personal doses by means of telemetering devices were reviewed and one of the possible arrangements was illustrated. In conclusion, it is stated that the proposed devices and arrangements can be realized by using existing standard instruments and equipment. Orig. art. has: 1 table and 3 diagrams.

ASSOCIATION: None

SUBMITTED: 25Nov65

ENCL: 00

SUB CODE: NP

NO REF SOV: 003

OTHER: 002

Card 2/2 *md*

STAROVYTOV, V.Ye.

Elimination of diphtheria. Zdrav. Belor. 5 no.11: 3 N '59.  
(MIRA 13:3)

1. Iz Kamenskogo fel'dshersko-akusherskogo punkta Mogilevskoy  
oblasti.

(DIPHTHERIA)

KAZAKOV, P.P.; STAROVYTOV, Ye.T.

Developing boron ore for ferroboron smelting. Biul.tekh.-ekor.  
inform.Gos.nauch.-issl.inst.nauch.i tekhn.inform. 18 no.5:4-5  
My '65. (MIRA 18:6)

L 60255-65 EPF(c)/EPF(n)-2/EWP(z)/EWT(m)/EWP(b)/T/EWA(d)/EWP(w)/EWP(t)

Pu-4 IJP(c) MJW/JD/JG/WE

ACCESSION NR: AP5012655

UR/0369/65/001/002/0214/0217

AUTHOR: Il'ina, G. V.; Kuslitskiy, A. B.; Starovoytov, Yu. A.

TITLE: The effect which composite alloying with manganese, tungsten and molybdenum has on corrosion fatigue strength and corrosion resistance of ShKh 15 steel

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 1, no. 2, 1965, 214-217

TOPIC TAGS: corrosion resistance, steel corrosion, fatigue strength, alloy steel

ABSTRACT: Previous tests show that reducing non-metallic inclusions does not affect the hardenability and heat resistance of ShKh 15 steel. This work considers the effects of composite alloying with molybdenum (0.4-0.6%), tungsten (1.0-1.2%) and manganese (0.9-1.2) on certain properties of ShKh steel. The alloy was designated ShKh 15VMG. The steel was produced by two-arc vacuum melting. Purity tests show that ShKh 15VMG melted by this method is only a little less pure than ShKh 15 steel. Optimum melting conditions are described. Tests showed that alloying with manganese, tungsten and molybdenum improves the maximum hardness of the steel and greatly increases creep resistance. Tables are given comparing the mechanical properties and toughness of the steels. Fatigue test results are given and compared

Card 1/2

L 60255-65

ACCESSION NR: AP5012655

with ShKh 15 steel fatigue curves. Corrosion fatigue test results are given. It was found that composite alloying of ShKh 15 steel with 1.0-1.2% tungsten, 0.4-0.6% molybdenum and 0.9-1.2% manganese, somewhat increases its hardenability, markedly increases heat resistance and toughness, causes an increase in cyclic strength in air, substantial rise in corrosion resistance in  $H_2SO_4$  and does not greatly affect corrosion fatigue endurance in 3% NaCl solution. Orig. art. has: 3 figures, 2 tables.

ASSOCIATION: FMI AN UkrSSR, Lvov

SUBMITTED: 21Sep64

ENCL: 00

SUB CODE: MM

NO REF SOV: 009

OTHER: 000

Card 2/2

L 37941-66 ENT(m)/ENP(w)/I/ENP(t)/ETI IJP(c) JD  
 ACC NR: AP6023448 (N) SOURCE CODE: UR/0369/66/002/003/0336/0339 39  
 AUTHOR: Kuslitskiy, A. B.; Kreymerman, G. I.; Kokotaylo, I. V.; Starovoytov, Yu. A.;  
 Karpenko, G. V.; Tkachev, V. I.  
 ORG: Physicomechanical Institute, AN UkrSSR, L'vov (Fiziko-mekhanicheskiy institut  
 AN UkrSSR)  
 TITLE: Effect of metallurgical factors on the low-cycle fatigue in various media  
 SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 3, 1966, 336-339  
 TOPIC TAGS: steel, low alloy steel, nickel containing steel, ~~vacuum degassed steel,~~  
~~low cycle fatigue, steel fatigue strength, steel fatigue life/12KhN3A steel~~  
~~Steel structure~~  
 ABSTRACT: Low-alloy 12KhN3A structural steel, conventionally cast or vacuum degassed,  
 was hot-rolled into 40 mm plates or 3 mm sheets, hardened, and tempered to a tensile  
 strength of 100 dan/mm<sup>2</sup>, and tested for fatigue strength in the air, in a 3% NaCl  
 aqueous solution, and in the same solution with applied cathodic polarization, the  
 latter to promote a hydrogen absorption. A constant-amplitude, symmetrical bending  
 at a frequency of 0.8 cps was used in the tests. The test results showed that  
 vacuum-degassed steel had a longer fatigue life in all the investigated media than  
 the conventionally cast steel, especially in the tests in the NaCl solution with  
 cathodic polarization. The embrittling effect of hydrogen and, correspondingly, the  
 difference in the fatigue life increased with increasing amplitude. Longitudinal  
 Card 1/2

L 37941-56

ACC NR: AP6023448

specimens had a longer fatigue life than that of transverse specimens. With increasing amplitude, the difference in the fatigue life of longitudinal and transverse specimens increased substantially in tests in the air, and less so in tests in NaCl solution, but noticeably decreased in the NaCl with cathodic polarization. Sheet specimens had a slightly higher fatigue life than that of plate specimens in the air and in NaCl solution, but lower in NaCl with cathodic polarization. Orig. art. has: 1 figure. [MS]

SUB CODE: 11/ SUBM DATE: 05Feb66/ ORIG REF: 002/ ATD PRESS: 5047

Card 2/2 MLP

*Starovotova, H.F.*

RODIONOVA, K.F.; STAROVOTOVA, A.F.; KAPERSKAYA, N.V.

Geochemistry of pre-Devonian deposits in the central section of  
the Russian Platform. Trudy VNI no.4:65-100 '54. (MLRA 9:1)  
(Russian Platform--Geochemistry)



20.09.1957

[The geochemical characteristic of the terrigenous Devonian strata of the SW part of Bashkiria. K. F. Radionova, A. F. Starovoltova, and K. M. Makarochkina. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst.* 1957, No. 11, 271-309.—Oxidation-reduction conditions during the sedimentation and the following diagenesis, detn. of the distribution of the org. material and the changes of its compn. with the purpose of finding in it secondary bitumens are studied. Numerous analyses of elementary, sulfate, and composite sulfur, ferrous, ferric, and composite iron, and org. material, and diagrams based on these analyses are given. A. Volborth-

4

11

EE

STAROVYTOVA, A.F.

RODIONOVA, K.F.; STAROVYTOVA, A.F.

Study of humic acids in the Maykop deposits of central Ciscaucasia.  
Zh. Vses. khim. no. 11:310-320 '57. (MLBA 10:11)  
(Caucasus, Northern--Humic acid)

RODIONOVA, K.F.; STAROVYTOVA, A.F.; KIRIYENKOVA, N.V.

Geochemistry of Maykop, Khadun, and foraminiferal sediments in  
Stavropol Territory. Trudy VNII no.14:118-146 '59. (MIRA 12:7)  
(Stavropol Territory--Sediments (Geology))

RODIONOVA, K.F.; ~~STAROVYTOVA, A.F.~~; KIRIYENKOVA, N.V.; MAKAROGHKINA, K.M.;  
Prinimali uchastiye: KOTOSHEVA, Z.S.; MOCHALOVA, Ye.M.

Characteristics of the organic substance in Jivet sediments of the  
Pavlovskaya, Tashliyar, and Aktash areas in the Romashkino field.  
Trudy VNII no.23:161-204 '60. (MIRA 13:11)  
(Romashkino region--Sediments (Geology))  
(Organic matter)

KEL'TSEV, N.V.; STAROVOYTOVA, A.F.

Production of pure isopentane by fractionation on synthetic zeolites.  
Gaz.prom. 6 no.8:34-37 '61. (MIRA 14:10)  
(Butane) (Zeolites)

VORONCHIKHINA, M.G.; KEL'TSEV, N.V.; STAROVOYTOVA, A.F.; KHALIF, A.L.

Obtaining solvents from casing-head gasolines. Trudy VNIIGAZ no.12:  
159-163 '61. (MIRA 15:1)

(Gasoline) (Solvents)

STAROVAYA, A. E.

128

PHASE I BOOK EXPLOITATION

SOV/6246

Soveshchaniye po tseolitam. 1st, Leningrad, 1961.

Sinteticheskiye tseolity; polucheniye, issledovaniye i primeneniye  
(Synthetic Zeolites: Production, Investigation, and Use). Mos-  
cow, Izd-vo AN SSSR, 1962. 286 p. (Series: Its: Doklady)  
Errata slip inserted. 2500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh  
nauk. Komisiya po tseolitam.

Resp. Eds.: M. M. Duhinin, Academician and V. V. Serpinskiy, Doctor  
of Chemical Sciences; Ed.: Ye. G. Zhukovskaya; Tech. Ed.: S. P.  
Golub'.

PURPOSE: This book is intended for scientists and engineers engaged  
in the production of synthetic zeolites (molecular sieves), and  
for chemists in general.

Card 1/129

Synthetic Zeolites: (Cont.)

SOV/6246

COVERAGES: The book is a collection of reports presented at the First Conference on Zeolites, held in Leningrad 16 through 19 March 1961 at the Leningrad Technological Institute imeni Lensovet, and is purportedly the first monograph on this subject. The reports are grouped into 3 subject areas: 1) theoretical problems of adsorption on various types of zeolites and methods for their investigation, 2) the production of zeolites, and 3) application of zeolites. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

Foreword	3
Dubinina, M. M. Introduction	5

Card 2/43



Synthetic Zeolites: (Cont.)

7  
807/6246

- Tonkonog, L. G., K. V. Chmutov. Separation of Mixtures of Ethyl and Methyl Alcohols on Synthetic Zeolites 230
- Vol'f, M. B., and R. V. Alekseyeva. Application of Synthetic CaA Zeolites in Separating Hydrocarbon Mixtures 233
- Mitrofanov, M. G., and Ya. V. Mirskiy. Separation of Petroleum Fractions on Synthetic Zeolites 236
- Kel'tsev, N. V., A. P. Starovoytova, and N. S. Torocheshnikov. The Adsorption Method of Purifying Isopentane From Admixtures of n-Pentane 239
- Vinogradova, V. S., and L. S. Kofman. Application of Synthetic Zeolites in Separating and Purifying Synthetic Rubber Monomers 245

Card #12744 3/6

SOV/142-58-4-15/30

Maximum Rated Capacity for a Semi-Open H-Shaped Wave-Guide

critical thickness is determined by a formula. The calculation is made in the paper for polystyrol ( $\epsilon = 2.53$  and for  $f = 3-10$  thousand Mc). The breakdown capacity is examined taking into account the possibility of a disruptive discharge in air and of a thermal puncture in the di-electric. In the first section, the relations are explained of (1) external power to di-electric thickness, (2) critical power concentrated in the air and (3) full critical capacity to the relative thickness of the di-electric for disruptive (air) discharge and for punctures in the di-electric. In the second part the relation of the field voltage in the center of the di-electric to the thickness of the di-electric is examined. The author concludes that semi-open H-shaped wave-guides should be used with small thickness of the di-electric plates for transmission of large power values but that at the same time the dimensions of the metallic plates must be increased, since the field will be more dispersely distributed. There are 5 graphs, 1 figure

Card 2/3

SOV/142-58-4-15/30

Maximum Rated Capacity for a Semi-Open H-Shaped Wave-Guide

and 4 references, 3 of which are Soviet and 1 German.

ASSOCIATION: Kafedra radiofiziki Tomskogo gosudarstvennogo univers-  
iteta imeni V.V.Kuybysheva (Chair of Radio  
Physics, Tomsk State University imeni V.V.Kuybyshev)

SUBMITTED: March 24, 1958

Card 3/3

9.1000

50433  
SOV/112-59-23-48568

Translation from: Referativnyy zhurnal Elektrotehnika, 1959, Nr 23, p 183,  
(USSR)

AUTHORS: Bobrovnikov, M.S., Sazonov, A.I., Starovoytova, R.P.

TITLE: Excitation of Oscillations With a Fringe Radiation in Infinitely Long Wire and Plane

PERIODICAL: Tr. Sibirsk. fiz.-tekhn. in-ta, 1958, Nr 36, pp 381 - 388

ABSTRACT: A diffractive method of studying antennas is proposed on a model consisting of an infinitely long hollow conductor excited by two ring-shaped slots fed from inside. At a distance between the slots equal to

$$\frac{2\pi l}{\lambda} = (2n + 1) \frac{\pi}{2},$$

where  $l$  is the half-distance between the slots, a fringe radiation only with a lobe diagram will be observed. A formula for the magnetic component of the field is derived. Also in this case there is a lobe radiation diagram. Methods of measurement

Card 1/2

80433  
SOV/112-59-23-48568

Excitation of Oscillations With a Fringe Radiation in Infinitely Long Wire  
and Plane

and the equipment are described. The diagrams obtained for current density and  
radiation field agree fairly well with the theory. ✓

Ye.I.S.

Card 2/2

9.14.50

S/194/62/000/008/091/100  
D413/D308

AUTHORS: Bobrovnikov, M.S., and Starovoytova, R.P.

TITLE: The excitation of a metallic cylinder with dielectric coating

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1962, abstract 8-7-137 r (Tr. Sibirsk. fiz.-tekh. in-ta pri Tomskom un-te, no. 39, 1960, 46-57)

TEXT: The authors examine the problem of the symmetrical concentrated excitation of an infinite metallic cylinder covered with a layer of dielectric, by means of an annular magnetic flux. They show that under these conditions there is launched a plane surface wave propagated along the cylinder, together with a spherical radiation wave. They determine the efficiency of excitation of the surface wave (the ratio between the energies in the surface and the free-space waves). They also obtain the radiation impedance of the system. [Abstracter's note: Complete translation.] ✓

Card 1/1

S/194/62/000/007/139/160  
D413/D308

9.3760'

AUTHORS: Starovoytova, R.P., and Sytnik, V.A.

TITLE: Natural oscillations in a metal trough with layered filling

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1962, abstract 7-7-173 f (Tr. Sibirsk. fiz.-tekh. in-ta pri Tomskom un-te, no. 39, 1960, 66-71)

TEXT: The authors investigate the types of waves in a rectangular infinite metal trough containing two dielectric plates parallel to its bottom. One of the plates lies on the bottom and the other is at a certain distance from it. Characteristic equations are obtained for longitudinal magnetic waves (having no electric field component normal to the separation boundary between the media), and for longitudinal electric waves (having no analogous magnetic field component). It is shown that two types of longitudinal magnetic wave may exist in the system. 4 references. [Abstracter's note: Complete translation.]

Card 1/1

BOBROVNIKOV, M.S.; STAROVOYTOVA, R.P.

Concentrated excitation of a metallic cylinder with a dielectric coating. Izv. vys. ucheb. zav.; radiotekh. 4 no. 2:140-147  
Mr-Apr '61. (MIRA 14:5)

1. Rekomendovana kafedroy radiofiziki Tomskogo gosudarstvennogo universiteta imeni V.V. Kuybysheva.  
(Radio lines)



9,9700 (1327)

31985  
S/142/61/004/004/006/018  
E192/E382

AUTHORS: Bobrovnikov, M.S., Starovoytova, R.P. and Smirnov, V.P.

TITLE: The efficiency of excitation of surface waves by a lumped source on an impedance plane

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, v. 4, no. 4, 1961, 432 - 438

TEXT: The problem of lumped excitation of an infinite impedance plane by a magnetic current filament is considered. The plane has an isotropic impedance and represents the simplest delay system. The impedance plane, whose surface coincides with the coordinate plane  $y, z$  (see Fig. 1), is excited by an infinitely long magnetic current filament  $j^m$ , which is parallel to the axis  $y$ , which is situated at a distance  $x_0$  from the impedance plane; thus:

$$j^m = I^m \delta(x - x_0) \delta(z)$$

Card 1/β<sub>3</sub>

31985  
S/142/61/004/004/006/018  
E192/E382

The efficiency of ....

where  $x = x_0$  and  $z = 0$  are the coordinates of the source, and

$I_m$  is the amplitude of the source.

Under these excitation conditions only the three field components are produced, namely -  $E_x$ ,  $E_z$  and  $H_y$ . The component  $H_y$

can be found by solving the Maxwell equations, while the other field components can be expressed in terms of  $H_y$ . The boundary condition at the impedance surface is:

$$E_z = Z H_y / x=0$$

where  $Z$  is the surface impedance. It is shown that the surface-wave component of the magnetic field is given by:

Card 2/65

The efficiency of ....

31985  
S/142/61/004/004/006/018  
E192/E382

$$H_{y_{\text{noc}}} = \frac{4\pi i k}{c} I_m \frac{v_o}{h_o} e^{-x_o v_o} e^{-x v_o} e^{i h_o z} \quad (9)$$

$$0 \leq x \leq \infty$$

where:

$$v_o = \sqrt{h_o^2 - k^2}$$

In the above  $k = 2\pi/\lambda$  and  $v = \sqrt{k^2 - h^2}$ . The power carried by the surface wave is expressed by:

$$P_{\text{noc}} = \frac{\pi}{c} I_m^2 k \frac{v_o}{h_o} e^{-2x_o v_o} \quad (10)$$

The radiation field components are also determined and it is shown that the radiated power can be expressed by:

Card 3/65

S/142/61/004/004/006/018  
E192/E382

The efficiency of ....

$$P_{\text{нзп}} = \frac{I_m^2 k}{c} \left\{ \frac{\pi}{4} + \sum_{n=1}^{\infty} \frac{\Gamma\left(\frac{1}{2}\right) \Gamma\left(n - \frac{1}{2}\right)}{(1-Q^2)^n (kx_0)^{n-1}} \times \right. \\ \left. \times \left[ \frac{1}{4} (1 - Q^2) I_{n-1}(2kx_0) - I_n(2kx_0) \left( n - \frac{1}{2} \right) \left( \frac{1}{4kx_0} + \frac{Q}{2n-1} \right) \right] \right\} \quad (12)$$

where  $Z = -iQ$ . By analyzing the above formulae (and comparing the results with some experimental data) it is concluded that a plane electromagnetic wave impinging on an infinite uniform impedance plane does not excite surface waves. On the other hand, when the surface waves are excited by a lumped source, the efficiency of excitation depends on the delay coefficient  $\beta = h_0/k$  and the distance of the source from the impedance plane. An optimum height for the source above the impedance plane can be determined for every given value of  $\beta$ . Thus, for example, for  $\beta = 1.25$  the highest

Card 4/65

31985  
S/142/61/004/004/006/018  
E192/E382

The efficiency of ....

efficiency of  $\eta = 0.981$  is reached for  $x_0/\lambda = 0.16$ . The excitation efficiency near to unity can be achieved for comparatively low values of the delay coefficient ( $\beta = 1.05 - 1.2$ ).

There are 5 figures and 6 references: 2 Soviet-bloc and 4 non-Soviet-bloc. The four English-language references mentioned are: Ref. 1 - A.L. Cullen - PIEEE, 1957, C 104, no. 6, 237; Ref. 2 - G.I. Rich, PIEEE, 1955, B 102, no. 2, 237; Ref. 3 - A.L. Cullen, PIEEE, August, 1955, 101, 4, 225 and Ref. 4 - I.W. Duncan, IRE Trans., 1959, MTT-7, no. 2, 257

ASSOCIATION: Kafedra radiofiziki Tomskogo gos. universiteta im. V.V. Kuybysheva (Department of Radio Physics of Tomsk State University im. V.V. Kuybyshev)

SUBMITTED: August 28, 1960 (initially)  
November 3, 1960 (after revision)

Card 5/6

40037

S/139/62/000/004/011/018  
E140/E335

24.200

AUTHORS: Starovoytova, R.P. and Bobrovnikov, M.S.  
TITLE: Excitation of an impedance wedge by a filiform magnetic source at the apex  
PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniye, Fizika, no. 4, 1962, 130 - 139  
TEXT: The presence of an impedance wedge makes the usual solution by separation of variables impossible. Several attempts have been made at the solution of special cases; in other attempts, complicated methods were used (W.E. Williams, Proc. Cambr. Philosoph Soc., 57, 2, April, 1961). The basis of the present solution is an integral expansion with kernels representing plane waves. Analysis of the solution indicates that at small aperture angles the amplitudes of the surface waves obtained are greater than on a plane with the same impedance values. If the angle is taken too small, the surface waves and radiation waves become confused in space. There are 5 figures.  
ASSOCIATION: Sibirskiy fiziko-tehnicheskii institut pri Tomskom gosuniversitete imeni V.V. Kuybysheva

Card 1/2

Excitation of ....

S/139/62/000/004/011/018  
E140/E335

SUBMITTED:

(Siberian Physicotechnical Institute of  
Tomsk State University imeni V.V. Kuybyshev)  
September 28, 1961

Card 2/2

9,982/

34490  
S/109/62/007/002/009/024  
D266/D303

AUTHORS: Starovoytova, R.P., Bobrovnikov, M.S., and Kislytsina, V.N.

TITLE: Scattering of surface waves by a discontinuity in an impedance sheet

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 2, 1962, 250 - 259

TEXT: The purpose of the paper is to study the effect of a wedge-like discontinuity on the propagation of surface waves. The dimensions perpendicular to the paper are assumed to be infinite and a surface wave of the form

$$U_0 = e^{-\alpha_+ x} e^{-ik\beta_+ y} \quad (1)$$

is assumed to propagate on the upper sheet ( $\alpha_+$  - attenuation coefficient,  $k = 2\pi/\lambda$ ,  $\lambda$  - free space wavelength,  $\beta_+$  - retardation coefficient). The angle between the sheets is  $2\phi$  and their impedances (assumed purely reactive) are  $Z_+$  and  $Z_-$  respectively. The mathema-

Card 1/4



Scattering of surface waves by a ...

S/109/62/007/002/009/024  
D266/D303

tical solution of the problem is obtained by following the method of G.D. Malyuzhinets (Ref. 2: Dokl. AN SSSR, 1958, 121, 3, 436) and (Ref. 3: Nekotoroye obobscheniye metoda otrazheniy v teorii difraktsii sinusoidal'nykh voln (Generalization of the Reflection Method in the Theory of the Diffraction of Sinusoidal Waves) Doctoral thesis, Izd. AN SSSR, 1950), who studied the problem of diffraction on similar structures and tabulated some of the special functions involved. The reflection coefficient in this case can be expressed in the form of trigonometric functions as follows

$$|R| = \left| \frac{\tan h \frac{\pi \kappa}{2\Phi} \left[ 1 - \tan \frac{\pi^2}{2\Phi} \tan h \frac{(\kappa_+ - \kappa_-)}{4\Phi} \right]}{\tan \frac{\pi^2}{4\Phi} - j \tan h \frac{\pi \kappa_+}{2\Phi}} \right| \quad (9)$$

where

$$\kappa_{\pm} = j\theta_{\pm}, \quad \sin \theta_{\pm} = Z_0/Z_{\pm}$$

and  $Z_0$  is the impedance of free space. The reflection coefficient is zero if the conditions

Card 2/4

Scattering of surface waves by a ...

S/109/62/007/002/009/024  
D266/D303

$$\kappa_+ = \kappa_- \text{ and } 2\Phi = \frac{\pi}{2n+1}, n = 0, 1, 2, \dots \quad (10)$$

are satisfied. If  $\kappa_+ \neq \kappa_-$  the reflection coefficient has a non-zero minimum. If  $\Phi = \pi$  (half-infinite plane) and the impedances are equal on both sides of the sheet, the reflection and transmission coefficients are given by the same expression and both tend to the limit of  $1/\sqrt{2}$  in the case of an infinitely slow wave. These results agree with those of N.G. Trenev (Ref. 5: Radiotekhnika i elektronika, 1958, 3, 1, 27), who used a different approach. The radiation coefficient is defined as

$$/D|^2 = 1 - (|R|^2 + |T|^2)$$

$|D|$  can vary between zero and unity depending on  $\beta$ . If  $\beta \pm 1$  all the power goes into radiation whilst for  $\beta = \infty$  all the power is contained in the surface waves. For values of  $\beta$  near to unity the maximum of the radiation pattern is in the y direction, but as  $\beta$  increases the main lobe of radiation tends to occupy a symmetric position in respect to the wedge. Nearly all the calculated radiation

Card 3/4

Scattering of surface waves by a ...

S/109/62/007/002/009/024  
D266 D303

tion patterns are free of side lobes but this seems to be a consequence of the two dimensional arrangement. There are 13 figures and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: A.F. Kay, IRE, Trans., 1959, AP-7, 1, 22.

SUBMITTED: June 23, 1961

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Card 4/4

42726

S/109/62/007/011/003/012  
D266/D308

Bobrovnikov, M.S. and Starovoytova, R.P.

Excitation of rectangular impedance sheets  
Radiotekhnika i elektronika, v. 7, no. 11,  
1962, 1910 - 1915

9.3700

AUTHORS:

TITLE:

PERIODICAL:

TEXT:

The purpose of the paper is to determine  
theoretically the radiation field and the excited surface waves.  
The impedance sheets coincide with the  $x = 0$  and  $z = 0$  planes  
and a magnetic current line source is located along the  $y$  axis  
in the point  $x_0, z_0$ . The surface impedance of the sheets are  
 $Z_1$  and  $Z_2$  respectively. The solution

$$U(x, z) = \frac{ik4\pi}{c} \int j^{\pm}(x_0, z_0) G(x, z, x_0, z_0) ds_0 \quad (2)$$

where  $U$  satisfies the inhomogeneous wave equation with the  
respective boundary conditions on the impedance sheets and  $G$

Card 1/3

S/109/62/007/011/003/012  
D266/D308

Excitation ...

is Green's function obtained by known methods. Expressing the magnetic current density with the aid of  $\delta$  functions and assuming purely inductive surface impedances

$$Z_1 = -iQ_1, \quad Z_2 = -iQ_2$$

( $Q_1$  and  $Q_2$  positive) the integrand of (2) contains two poles and a branch point leading to surface waves and radiation fields respectively. If  $Q_2 = 0$  ( $z = 0$  sheet ideally conducting)

$$z_0 = \frac{\lambda_1}{4} (2n + 1), \quad n = 0, 1, 2, \dots \quad (13)$$

for  $Q_2 = \infty$

$$z_0 = \frac{\lambda_1}{2} n$$

where  $\lambda_1$  - wavelength of the surface wave. It is further shown that the position of maximum excitation is half way between the

Card 2/3

BOBROVNIKOV, M.S.; STAROVOYTOVA, R.P.

Diffraction of cylindrical waves on an impedance wedge. Izv. vys.  
ucheb. zav.; fiz. no.6:168-176 '63. (MIRA 17:2)

1. Sibirskiy fiziko-tekhnicheskoy institut pri Tomskom gosudarstven-  
nom universitete imeni Kuybysheva.

BOBROVNIKOV, M.S.; MYSHKIN, V.G.; STAROVOYTOVA, R.P.

Problem concerning the excitation of a dihedral right angle with  
impedance edges. Radiotekh. i elektron. 8 no.10:1791-1793 0  
'63. (MIRA 16:10)

L 54600-65 EWT(1)/EWT(m)/EWP(1)/EEC-4/EEC(t)/T/EWP(t)/FCS(k)/EWP(b)  
Fac-4/P1-4/Pj-4/P1-4 WR/JD

ACCESSION NR: AP5006597

S/0142/64/007/006/0751/0756

AUTHOR: Zamareva, V. P.; Starovoytova, R. P.

TITLE: Concentrated excitation of a dielectric-coated metal cylinder. Part 1

SOURCE: IVUZ. Radiotekhnika, v. 7, no. 6, 1964, 751-756

TOPIC TAGS: antenna, cylindrical antenna  $\eta$   $\epsilon$

ABSTRACT: The theoretical problem of exciting a perfect-conductance dielectric-coated metal cylinder by a source (magnetic current ring) located either in the dielectric coating or outside, in the air, is considered. The effect of the source location on the efficiency  $\eta$  of surface-wave generation is investigated. The nature of variation of  $\eta$  depends on the radiated power: the source position that produces maximum  $\eta$  corresponds to a minimum radiation. For higher dielectric constants  $\epsilon$ , smaller exciter apertures can be used for producing sufficiently high  $\eta$ ; the higher  $\epsilon$ , the closer  $\eta$  comes to 100%. Thus, a

Card 1/2



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concentrated source can very efficiently excite the surface waves if the source is placed at a definite distance from the metal surface for selected  $\epsilon$ ,  $\lambda$  and the dielectric-coating thickness. Orig. art. has: 4 figures and 25 formulas.

ASSOCIATION: none

SUBMITTED: 28Jun63

ENCL: 00

SUB CODE: EC

NO REF SOV: 002

OTHER: 000

*ju*  
Card 2/2

ZAMARAYEVA, V.P.; STAROVOYTOVA, R.P.

Concentrated excitation of a metallic cylinder with a dielectric  
cover. Part 2. Izv.vys.ucheb.zav.; radiotekh. 7 no.6:751-756 N-D  
'64. (MIRA 18:4)

BOBROVNIKOV, M.S.; PONOMAREVA, V.N.; MYSHKIN, V.G.; STAROVOYTOVA, R.P.

Diffraction of a surface wave incident at an arbitrary angle  
on the bend of an impedance strip. Izv. vys. ucheb. zav.; fiz.  
8 no.1:162-169 '65. (MIRA 18:3)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom  
gosudarstvennom universitete imeni Kuybysheva.

KLYUCHAREV, A.A., dotsent; FILIPPOVICH, F.K., vrach; KUL'SHINSKAYA, Ye.P.,  
vrach; STAROVOYTOVA, T.D., vrach

Characteristic clinical features of dysentery in adults. Zdrav.  
Belor. 6 no.3:51-53 Mr '60. (MIRA 13:5)

1. Iz kafedry infektsionnykh bolezney Minskogo meditsinskogo insti-  
tuta (zaveduyushchiy - professor A.N. Filippovich) i Minskoy in-  
fektsionnoy klinicheskoy bol'nitsy (glavnyy vrach Z.G. Alikina).  
(DYSENTERY)

REEL

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STAROVY TOVA, T.O.

**END**